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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,003	12/27/2004	Shinji Naruse	2004_2036A	7588
513 7590 07/14/2008 WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021				
EXAMINER ALEJANDRO, RAYMOND				
ART UNIT		PAPER NUMBER		
1795				
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07/14/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,003

Applicant(s)

NARUSE, SHINJI

Examiner

Raymond Alejandro

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-15 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 01/18/08
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This office action is responsive to applicant's reply dated 05/07/08, which responded to the Requirement for Restriction/Election dated 04/07/08 which was issued in response to the amendment after non-final rejection of 01/18/08. Prosecution of the present application now continues. The applicant has overcome the objections, 35 USC 112 rejections and the 35 USC 102. Refer to the abovementioned replies for specific details on applicant's rebuttal arguments and remarks. However, all pending claims (new claims 12 and 15) are finally rejected over new grounds of rejection as formulated hereinbelow on the written record:

Election/Restrictions

1. Applicant's election of Group I and Species 1a, 2 and 2c (claims 12 and 15; the specific species paper, silicon compound and silica gel, respectively) in the reply filed on 05/07/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 01/18/08 was considered by the examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The language "is made from aramid in the form of" in claim 12 is of uncertain meaning, thereby rendering the scope of the claimed immediately unclear in terms of the finally intended composition or material of the separator (in this case paper). Such a language is not defined by the claim, and the specification does not provide a standard for ascertaining the requisite degree.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese publication JP 07-326371 (herein called the JP'371) in view of Wilderman 2016162.

The present application is to a separator wherein the disclosed inventive concept comprises a coating material on a separator.

As to claims 12 and 15:

The JP'371 divulges a separator paper used in a battery (the electrical/electronic part) wherein a layer is deposited on the separator paper (Abstract).

The JP'371 discloses a separator according to the aforementioned description. However, the preceding prior art reference does not expressly disclose the specific silica gel as the coating material.

As to claim 12:

Wilderman discloses a porous separator for electric batteries being coated with a film of silica gel (CLAIM 4/ COL 1, lines 30-50).

1st Examiner's note: as to the method limitation "subject to heat treatment before and/or after coated", it is noted that a method limitation incorporated into a product claim does not patentable distinguish the product because what is given patentably consideration is the product itself and not the manner in which the product was made. Therefore, the patentability of a product is independent of how it was made. As a result, the process steps of a product-by-process claim do not impart any significant property or structure to the claimed end product. And, if there is any difference, the difference would have been minor and obvious. Determination of patentability of a product-by-process claim is based on the scope of the product itself.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."
In re Thorpe 777 F.2d 695, 698, 227 USPQ 964,966 (Fed Cir. 1985) and MPEP 2113.

2nd Examiner's note: the specific "sucking height" (or electrolyte retention) is deemed to be an inherent property or characteristic of the separator which is associated to the construction material thereof and its coating. For instance, applicant states that "The separator of this invention which has been coated in the aforementioned manner has good electrolyte retention owing to coating". "The electrolyte retention of the coated separator of this invention as shown by the above-mentioned formula (1) [equation 1 $\rightarrow h2\eta/\gamma$] is 0.7 mm or more" (See applicant's specification at page 5, lines 3-21). Thus, having been made both separators (applicant's separator and the prior art separator) of the same construction material, then, it can be fairly argued that the separator of the prior art must have the same properties.

Accordingly, products of identical chemical composition can not have mutually exclusive properties, and thus, the claimed property (i.e. the specific "sucking height" or electrolyte retention), is necessarily present in the prior art material.

"Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01 [R-3] Composition, Product, and Apparatus Claims

By compounding the teachings of the above references, it would have been within the purview of a skilled artisan at the time the invention was made to use the silica gel of Wilderman as the coating material for coating the separator paper of the JP'371 because Wilderman discloses that silica gel, when used as a coating material, assists in protecting the separator from the action

of the electrolyte and the oxidizing action of the positive electrode. Thus, the silica gel increases the initial resistance of the separator.

9. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese publication JP 10-154500 (herein called the JP'500) in view of Wilderman 2016162.

The present application is to a separator wherein the disclosed inventive concept comprises a coating material on a separator.

As to claims 12 and 15:

The JP'500 divulges a separator made of a porous substrate comprising wet paper used in a battery (the electrical/electronic part) wherein a coating layer is deposited on the separator paper (Abstract).

The JP'500 discloses a separator according to the aforementioned description. However, the preceding prior art reference does not expressly disclose the specific silica gel as the coating material.

As to claim 12:

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Accordingly, products of identical chemical composition can not have mutually exclusive properties, and thus, the claimed property (i.e. the specific "sucking height" or electrolyte retention), is necessarily present in the prior art material.

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Art Unit: 1795

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10. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese publication JP 07-326371 (herein called the JP'371) in view of Zuckerbrod et al 2006/0040175.

The present application is to a separator wherein the disclosed inventive concept comprises a coating material on a separator.

As to claims 12 and 15:

The JP'371 divulges a separator paper used in a battery (the electrical/electronic part) wherein a layer is deposited on the separator paper (Abstract).

The JP'371 discloses a separator according to the aforementioned description. However, the preceding prior art reference does not expressly disclose the specific silica gel as the coating material.

As to claim 12:

Zuckerbrod et al disclose a separator for electrochemical devices comprising a silica-sol-gel coating the separator surface (P0010-0011, 0014, 0018, 0026, 0003, 0007 & Abstract).

1st Examiner's note: as to the method limitation "subject to heat treatment before and/or after coated", it is noted that a method limitation incorporated into a product claim does not patentable distinguish the product because what is given patentably consideration is the product itself and not the manner in which the product was made. Therefore, the patentability of a product is independent of how it was made. As a result, the process steps of a product-by-process claim do not impart any significant property or structure to the claimed end product. And, if there is any difference, the difference would have been minor and obvious. Determination of patentability of a product-by-process claim is based on the scope of the product itself.

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By compounding the teachings of the above references, it would have been within the purview of a skilled artisan at the time the invention was made to use the silica gel of Zuckerbrod et al as the coating material for coating the separator paper of the JP’371 because Zuckerbrod et al discloses that silica gel, when used as a coating material, enhances mechanical and chemical characteristics of the separator. The mechanical and chemical characteristics enhanced by silica gel as the coating material are the longitudinal modulus, the puncture strength and the bubble point thereof.

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The JP'371 discloses a separator according to the aforementioned description. However, the preceding prior art reference does not expressly disclose the specific silica gel as the coating material.

As to claim 12:

Jen et al disclose a battery separator coated with silicone particles such as silica (P0053-0055/ Title). Specifically, Jen et al disclose the preparation of separators (P0052) comprising preparing predetermined solutions including silicone particles such as silica (P0053-0055) in a solvent; mixing the solutions; thereafter, the mixed solutions were coated on a release films or on woven glass fabric; after the coated fabric were dried a separator with certain thickness was obtained (P0053-0055).

1st Examiner's note: as to the method limitation "subject to heat treatment before and/or after coated", it is noted that a method limitation incorporated into a product claim does not patentable distinguish the product because what is given patentably consideration is the product itself and not the manner in which the product was made. Therefore, the patentability of a product is independent of how it was made. As a result, the process steps of a product-by-process claim do not impart any significant property or structure to the claimed end product. And, if

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By compounding the teachings of the above references, it would have been within the purview of a skilled artisan at the time the invention was made to use the silica gel of Jen et al as the coating material for coating the separator paper of the JP'371 because Jen et al discloses that silica gel, when used as a coating material, provides a battery separator with enhanced stable quality, non-irregular shape (regular shape) and high efficiency, thereby assisting in providing a battery exhibiting high charging capacity.

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Response to Arguments

14. Applicant's arguments with respect to claims 12 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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